

King's  
**AgriSeeds**<sup>Inc.</sup>



High Energy Forages and Soil-Building Cover Crops

# 2015 LATE SUMMER NEWSLETTER

**SUMMER LET YOU DOWN?  
NEED MORE FORAGE FAST?  
UNSURE OF YOUR OPTIONS?**

## **What's Inside**

**Preparing Soil Quality  
& Providing Forage**

**Forage Oats**

**Novel & Endophyte  
Free Fescues**

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*High Energy Forages and Soil Building Cover Crops*

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# FALL PLANTING FOR A SUCCESSFUL SPRING: PREPARING SOIL QUALITY AND PROVIDING FORAGE

Genevieve Slocum, King's AgriSeeds Inc.

Late summer is often the time to begin thinking about early spring. What will you plant and how will you get your soil in the kind of condition it should be in for that spring planting? Many aspects of your future rotation are influenced by what you choose to plant now.

No matter what crop you plan on planting next year, it will benefit from a preceding over-wintering crop. Many livestock producers have the misconception that if they use the crop as a forage, it won't benefit them as a cover crop. The truly important thing, though, is to have a crop in the ground over the winter, keeping soil covered and retaining nutrients (even if those nutrients are eventually harvested for feed).

Cover crops, including those that eventually double as forage, are a cost-effective conservation practice. They contribute a variety of benefits to the field, including weed suppression, soil building, and pore formation in the soil to help alleviate compaction and increase moisture-holding capacity. A physical crop or residue barrier on the surface prevents not only erosion, but also evaporation, helping to manage and conserve soil moisture. And even when top growth is harvested, root biomass contributes to soil organic matter and helps physically break up the soil.

A winter cover crop complements nutrient management plans because it holds many manure-applied nutrients in the plant tissue, while scavenging leaching nutrients.

While grasses and brassicas capture residual nitrogen from deeper soil layers, legumes fix it from the air.

## Choosing crops

A mix that includes two or more species, including small grains, other grasses (usually annual ryegrass), legumes, and brassicas, is the ideal choice. As a forage crop, even a simple mix adds agronomic diversity to the ration, as well

as providing a nice complement to summer annual forages.

What to plant in the fall will likely be influenced by the type of feed you need in the spring, and whether this will be for grazing, mechanical harvest, plowdown, or burn-down.

It also depends on the window of time available for planting and growth in both the fall and spring. For example, maybe you have time to plant by late summer this year, but want to be able to plant the following crop next spring as soon as you can get in the field. In that case, the best thing would be a mix or straight stand that may include **oats, spring barley, daikon radish, or turnips**. These crops grow rapidly in 60 days, depending largely on the tail-end of summer's heat, but reliably don't survive a killing frost. Instead, they leave a protective killed residue layer over winter, advantageous to no-till plant into in the spring. They also greatly improve soil tilth with their root growth; daikon radish in particular is used to loosen soils and break up subsurface compaction.

If you're planting a winter annual legume for the nitrogen benefit, you must leave enough time for it to grow until bloom for the most benefit. Hairy vetch often blooms in early June, while crimson clover blooms a little earlier, around mid-May.

For a mid-spring termination date, overwintering small grains work well. For strict cover crop use, they make the most nitrogen available when killed in a fully vegetative growth in the spring – before they have accumulated much carbon (lignin) to tie up nitrogen. You forego some extra carbon, but for an early spring planting, it's better to get the nitrogen released more quickly. (Continue on Page 5)



**King's Soil Builder Plus**, a mix of triticale, hairy vetch, annual ryegrass, crimson clover, and Daikon radish. This is a high-yielding forage that is excellent for soil improvement.

We've found that **triticale** is one of the most productive winter annual small grains (also one of the highest in digestible fiber and overall forage quality), and have built several popular mixes designed around it. These include:

**King's Soil Builder Plus**, a mix of triticale, hairy vetch, annual ryegrass, crimson clover, and Daikon radish. This is a high-yielding forage that is excellent for soil improvement.

**Triticale Plus**, a mix of triticale and annual ryegrass. As a forage, two spring cuttings can be taken (the second will be only annual ryegrass).

**Double Play**, a mix of triticale, annual ryegrass, and oats, for a fall cut and two spring cuttings. Only the triticale and annual ryegrass will be left by spring.

**Rye** is of course the classic fall-back cover crop option at a late planting date. It is the latest planted and earliest maturing cover crop available and produces the most for its growth period. Although it comes in behind triticale's combination of yield and quality, it is an economical soil builder and makes a decent forage if harvested before boot stage in the spring.

The best winter mixes for building soil and making good feed are often the simplest, and can consist of a small grain and legume. The legume helps fix nitrogen and improve protein levels, but often faces competition from the small grain and will make up only a small portion of the total dry matter yield.

Legume options include:

**Austrian Winter Peas**

**Spring Peas (will winter kill with hard frosts)**

**Crimson Clover**

**Hairy Vetch**

**King's 3-Way Clover Mix (yellow blossom sweetclover, ladino white clover, and medium red clover).**



King's additionally has a few proven fall-planted mixes, including:

**Broadcaster** – For broadcasting in late summer with moisture. Great for seeding into a living corn crop and open fields in late summer. Includes MOI and/or Marshall Annual Ryegrass, crimson clover, Common Medium Red Clover, daikon radish, and yellow blossom sweet clover.

**CARGO** - A mixture of crimson clover, annual ryegrass, and oats. It is a superb cover crop for southern Pennsylvania (south of I-78) and further south. Oats winterkill, while annual ryegrass and crimson clover over winter in warmer climates.

**Ray's Crazy Fall Mix** - This is a versatile cool season mix made up of grasses, legumes, and brassicas that can be used a short-term cover crop, a soil building transition crop to renovate depleted soils, a grazing mix, or some combination of these. It also contains several blooming species that, if left to grow and flower, will attract beneficial insect species.

Interseeding provides a flexible and innovative way to fit cover crops into the rotation, whether the farm is large or small scale, organic or conventional, conventional tillage or no-till.

# CONSIDER SPRING FORAGE OATS IN THE FALL!

Spring forage oats are the fastest fall forage available. Whether you are grazing or harvesting for haylage and baleage, forage oats provide high quality and yield in a short window. The varieties listed are developed to yield high quality forage. With wide leaves and high leaf to stem ratio, these oats provide what you need to increase milk or ADG.

**Everleaf Forage Oats-** Our most popular forage oat and for good reason! With leaf width potential at 1.25 inches, Everleaf is a highly digestible oat that stays leafy longer. Roughly 60-70 Days to Boot Stage. With the cooler climate of the northeast, Everleaf may not be well suited for fall production, depending on your production window.

**Forage Maker 50 -** High yielding earlier maturing variety that is very fast out of the gate and produces great quality.

**CDC Haymaker Oats-** NEW wide-leaf Canadian type with great yield. High forage quality. Roughly 60-65 Days to Boot Stage.

**ProLeaf 234 Oats-** Sold Out

**Reeves Oats-** Leafy, early maturing forage oat that is taller and earlier than Jerry. Great yield and quality. Roughly 55-60 Days to Boot Stage.

**Combine Forage Brassicas with Forage Oats for Grazing-** For maximum grazing in 60 days, combine 1.5 to 2 bushels of oats per acre (50-70 lbs) along with 2 lbs per acre of grazing type turnips (Appin, Barkant, T-Raptor). Turnips improve soil health and increase protein.

## ENDOPHYTE FREE & NOVEL ENDOPHYTE FESCUE



A key attribute of **BarOptima Plus E34** is its palatability and digestibility. Bred with animal performance in mind, this variety will produce great gains on cattle as well as make a soft, fine dry hay product. It is best suited for rotational grazing and hay. In continuous grazing situations cattle select and overpressure the BarOptima because of its high palatability.



**Martin II Protek-**Combining the proven Martin II genetics with the innovative Protek endophyte creates a Novel Endophyte product that performs well in a wide variety of applications. High yields and stress tolerance make this a great fit for the challenging transition zone and landscape.



**Cajun II Endophyte Free Tall Fescue-** Bred for the rugged conditions of the south-east, Cajun II is a premier endophyte free tall fescue. It was developed out of Auburn & LSU utilizing primarily the Cajun, Martin and Mozark genetics. Per acre cost is less than novel endophyte varieties

**Kora Endophyte Free Tall Fescue-** A late, very high yielding hay type tall fescue with improved digestibility. We do not recommend Kora for grazing dairy cattle, but it does have very impressive yields as a hay crop.

**STF 43 Endophyte Free Tall Fescue-** STF stands for Soft Leaf Tall Fescue. This blend of fescue varieties provides the softness and palatability that is desired in a grazing situation. STF 43 also blends very well with alfalfa.



# KingFisher® PREMIUM ALFALFAS

KingFisher alfalfas continue to stand out as the premier alfalfa varieties on the market. With consistent, high performance at the World Dairy Expo, this lineup of alfalfas is second to none.



## KF Enhancer II–Workhorse

High yielder with excellent feed quality. Very eye catching variety with an excellent disease package. *(Also Available in Organic– Organic Sold Out for Fall)*

- Fall Dormancy 4
- Winter Hardiness 1.6
- Disease Rating 30/30

## KF PLH 322–Leaf Hopper Resistant

Leaf hopper resistance in a plant with exceptional quality and yield. It maintains high forage quality even in a delayed harvest regime and is highly resistant to six major diseases. *(Also Available in Organic)*

- Fall Dormancy 3
- Winter Survival 2.2
- Disease Rating 30/30

## KF Traffic Pro– Sunken Crown

Very traffic tolerant, sunken crown variety. The sunken crown helps protect the plant from wheel and animal damage. Great aphanomyces race 1 and 2 resistance.

- Fall Dormancy 3.7
- Winter Hardiness 1.5
- Disease Rating 34/35

## KF 525–The Multifoliate

High yielding robust multifoliate alfalfa with excellent quality.

- Fall Dormancy 5
- Winter Hardiness 2
- Disease Rating 30/30

## Secure BR–The Branch Root

Combining high disease resistance with branch root characteristic, Secure is THE alfalfa for wetter soils.

- Fall Dormancy 3.8
- Winter Survival 1.6
- Disease Rating 34/35



## Interested in grazing alfalfa?

Kingfisher Traffic Pro has a sunken crown feature that enables it to stand up to the pressures of grazing. While aggressive rotational grazing is still recommended when grazing alfalfa, Traffic Pro is a little more forgiving if plants do get overgrazed. Energy reserves for regrowth are stored in the crown, which develops below the soil surface, shielding the plant from grazing pressure. Pictured right.



# REMINDER TIPS FOR WINTER FORAGE PRODUCTION

David Hunsberger, King's AgriSeeds, Inc

As the 2015 Summer crop matures planning for the next crop continues. Winter annuals are an excellent choice for either cover cropping or forage production. In diverse mixtures or monocropped several principles are worthy of review. Proper timing of seeding is critical. For best survival and volume of spring harvest several weeks of growth and tillering of new plants is desirable.

## BARLEY

Barley is the earliest of the traditional small grains to be seeded. Barley should be seeded approx 3-4 weeks ahead of the traditional Hessian fly free date for wheat planting. Barley forage is very high quality but does not overwinter well in wet soils. Plant 1.5 inches deep at 150 lbs/A.

## TRITICALE/WHEAT/SPELT

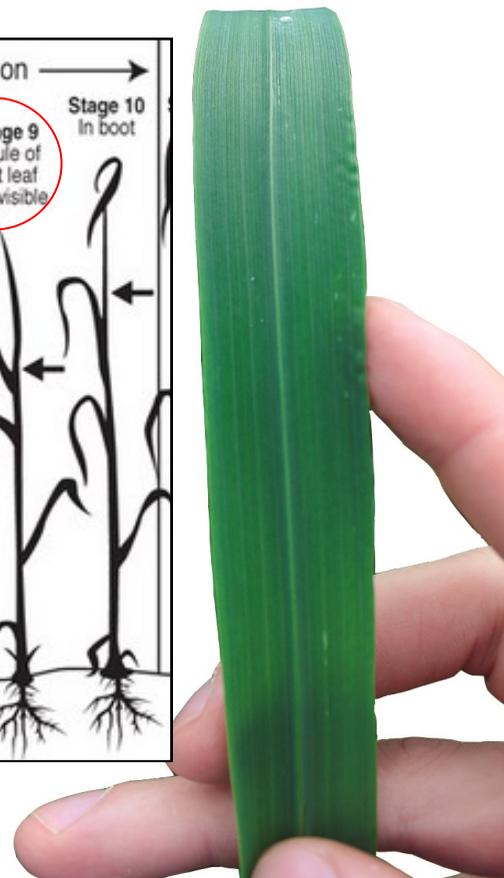
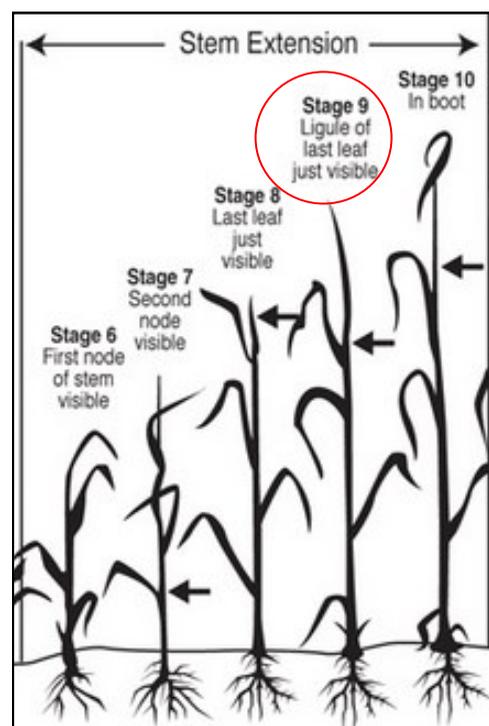
Triticale/Wheat/Spelt are the next option on the planting date calendar. These should also have at least 2 tillers for overwintering. If you have over 8 inches of autumn growth you should graze or clip to 4- 6 inches to reduce the potential for snow mold. Cereal Rye is the most hardy and can be planted much later than others, even into winter, while it will not germinate until Spring. All of these grains can be seeded a little later but you will want to increase seeding rate to compensate for the lack of tillering.

## FERTILITY

For maximum production you will want to fertilize your winter crop. Soil tests are very valuable to evaluate the basal levels of fertility of your fields. Manures can be utilized to provide N for fall growth. In the spring at green up soil bacteria is not active and available N is limiting. For straight cereal stands consider applying up to 100 units of N at green up. This will drive top growth and also ensure that the harvested forage has adequate feed quality protein content. It is advisable to supply a sulfur source too as complete protein requires S and N for the plants synthesize.

## HARVEST QUALITY

For high quality forage harvest at Feekes scale 9, "flag leaf". Do not wait until boot stage! Rye will mature earliest in spring followed by barley, then triticale, then wheat , and lastly the spelt. Legumes such as clovers, or hairy vetch are excellent companions and promote soil health. Annual ryegrass can also be introduced as a companion in a diverse mixture. Kings has many mixes available to assist or custom mixes can be made with enough leadtime. As you consider your winter annual crop begin to plan for the spring crop to follow, keep C:N ratios in mind, if corn is to follow including legumes is even more critical to help the residue to break down and nourish the crop.



# THE INTERSEEDER – GROWING TWO CROPS IN ONE

King's Agriseeds Inc. supported this project, providing some of the seed for the on-farm research. Dave Wilson, King's research agronomist is on the advisory board for the project and worked with the group to provide cover crop mixes and advice.

The Interrow seeder is an exciting technology recently released by Penn State University and is still part of on-going research trials to fine-tune cover mixes. Essentially a no-till drill, the Interseeder plants a cover crop into standing corn at V5 to V7 stage, creating a more updated and effective version of the traditional organic technique of broadcasting a winter cover crop into corn at last cultivation. This maturity stage falls just after the critical weed free period, when corn would be most sensitive to competition from weeds (or an interseeded crop).

This is still frequently done, sometimes with a seed spinner mounted on the back of a cultivator, but higher seeding rates must be used, and success is highly dependent on soaking rainfall very close to the time of seeding, either before or after. Broadcasting is also much more effective on tilled than no-till soil. You also risk some of the seed landing in the corn's leaf whorl. Spinning on seed is chosen for its ease and the lack of expense and equipment needed, but drilling the seed in with the Interseeder achieves better seed placement into moisture, and better seed-to-soil contact.

## Herbicides

Residual herbicides can be problematic for interseeded cover crops. Research is ongoing about the most appropriate herbicides to use in a rotation with interseeded cover crops. Non-residual programs based on glyphosate and glufosinate are the best bet until we have more experience.

## Penn State's research findings include –

- Interseeding has the most success when the corn is at V5-V6 stage
- Annual ryegrass is the most successful grass; legume establishment is more variable
- Corn yield is mostly unaffected by the interseeding operation
- Effect of the interseeded cover crops on second year corn is still under evaluation

## Latest Interseeder Version Design Components

- Drill units between rows
- Liquid N stream can be applied adjacent to corn row
- Herbicide can be applied under corn canopy
- Assist wheels to carry weight
- Ground drive
- Loading platform
- Conversion to complete Drill Unit
- Hitch for towing
- Commercialized by Interseeder Technologies, LLC - <http://interseedertech.com/>



## **Interseeded Cover Crops CIG (Conservation Innovation Grant) Summary:**

After two years, fairly high level of successful establishment  
About 70% in 2013 and 90% in 2014 in over 70 trials

### **Issues:**

Geographic limitations - better in the North? (prefers cooler and heavier soils)  
Identifying suitable species and varieties – **annual ryegrass and medium red clover consistently two of the best**  
Soil residual herbicides can be problematic – but often necessary to manage HR (Herbicide Resistant) weeds  
Timely cover crop control the subsequent year

***Look for Interseeder Product Recommendations in our 2016 Spring Newsletter!***

# **SUMMER SUCCESS!**

When sound management is combined with the finest products, success is the result. It's our aim to serve you by providing premier forage and cover crop seed along with relevant information to help increase the productivity of your forage system!

